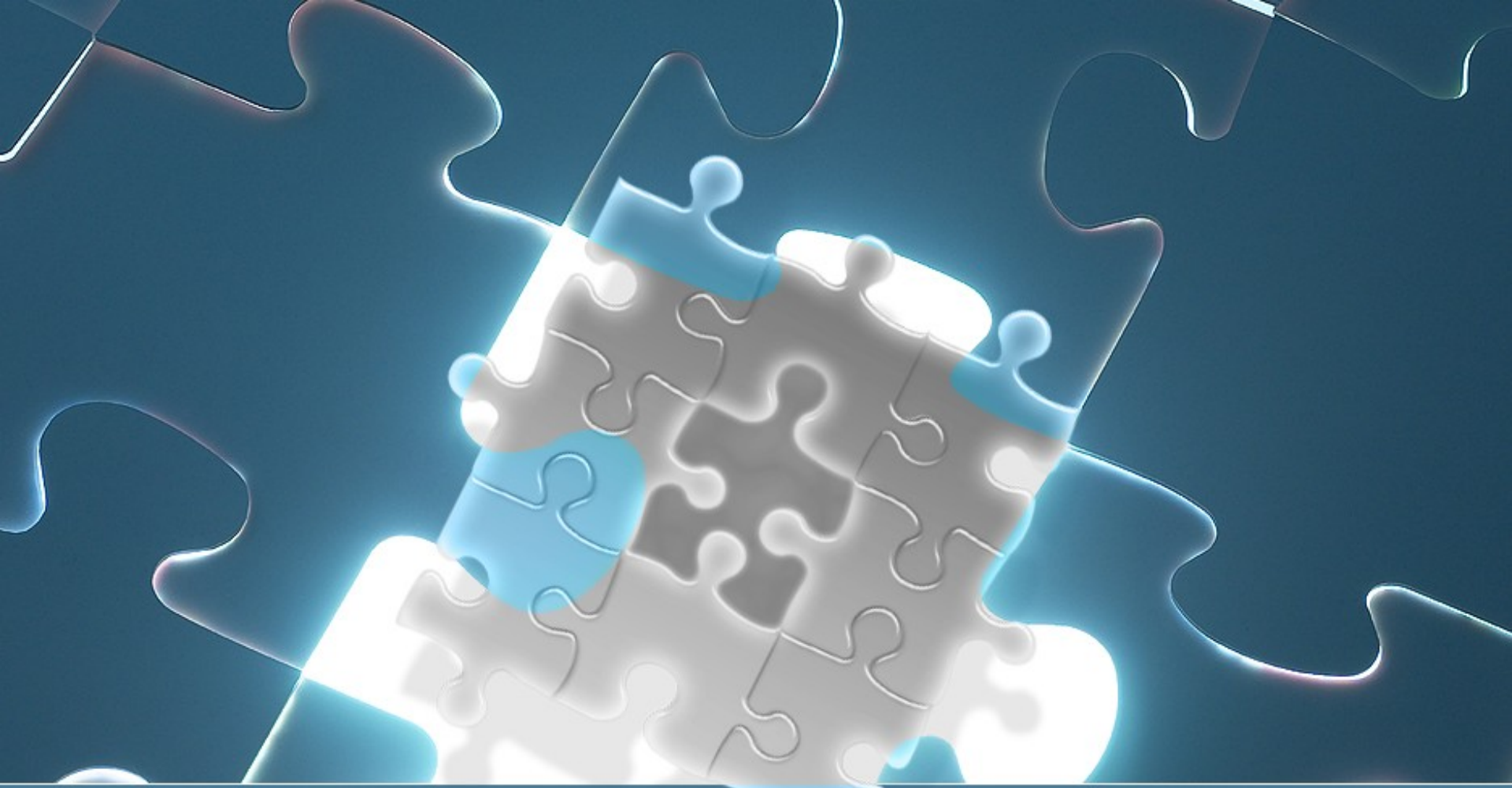

History of McNary Temperature Study

Prior to 1994

- Juvenile fish facility located between spillway and powerhouse
- High temperature issues suspected
- Juveniles could have long retention time in collection channel
- COE and WDFW collecting temperature data in gatewells and collection channel
- Criteria developed to manage project during warm summer temperatures

1994 – New Facility

- Reversed flow in collection channel to new facility on south shore
- Reduced fish retention in collection channel
- Temperature conditions improved
- Temperature monitoring still indicated temperature gradients in collection channel and turbine gatewells

1994 – New Facility

- Develop a primarily north to south temperature gradient in collection channel
- 1994: 2 day high mortality event
  - Cause is unknown
  - Suspects are clogged screens, and high water temperatures
- Developed operations of southern units to minimize temperature impacts
- “Chronic” temperature concerns

2001

- Anticipated low flow and high air temperatures caused concerns about possible fish mortality events at MCN
- 2000 BiOP recommended identification and analysis of temperature conditions, and development of a hydrothermal computational model

2001

- Brainstorming of options
  - Full range of options ranging from do nothing to bringing in icebergs.
  - Group seemed to be focused on the “cul-de-sac” at the south side of the forebay
  - Research was conducted to evaluate“flow mixers”
  - Pilot study of “heat indices”

2001- Start of McNary Temperature Study

- Goal was to identify and recommend alternatives to decrease temperature impacts to juvenile salmon at McNary Dam
- Study included developing CFD model
- Biological studies
- Increased temperature modeling at McNary Dam
- Analysis of alternatives
- Goal: Report of recommended plan of action